



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/762,922	02/14/2001	Kari Einamo	PM 277084	1058
909	7590	08/16/2005	EXAMINER	
PILLSBURY WINTHROP SHAW PITTMAN, LLP			CHO, UN C	
P.O. BOX 10500			ART UNIT	
MCLEAN, VA 22102			PAPER NUMBER	
			2687	

DATE MAILED: 08/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/762,922

Applicant(s)

EINAMO, KARI

Examiner

Un C. Cho

Art Unit

2687

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 – 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sanmugam (US 5,734,977) in view of Clarke et al. (US 5,793,752).

Regarding claim 1, Sanmugam discloses a method of tracing signaling messages of a subscriber in a mobile communication system which comprises functional entities (MSC, HLR, VLR) for subscriber mobility management, the method comprising transmitting and receiving signaling messages in a functional entity (messages being received and transmitted between network elements), receiving a trace command in said functional entity (network element receiving tracing command), the command indicating the tracer (element initiating the tracing command) and identifying at least one subscriber whose signaling messages are to be traced (Sanmugam, Col. 24, line 55 through Col. 26, line 39).

However, Sanmugam does not specifically disclose starting tracing which comprises sending the tracer a copy of a signaling message in response to the reception or transmission of a signaling message related to the subscriber to be traced. In an analogous art, Clarke discloses sending to the tracer a copy of a

signaling message in response to the reception or transmission of a signaling message related to the subscriber to be traced (monitoring probes are installed between network elements to keep track of functionality of network elements and the monitoring probes, when a message is received from central station, maintains a record for holding functionality related information, Clarke, Col. 9, lines 9 – 50 and Col. 10, lines 47 – 63). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the technique of Clarke to the system of Sanmugam in order to monitor at least one said link to identify from at least one message associated with a particular said node, a predetermined set of message characteristics sufficient to identify a said type of node functionality possessed by said particular node and also providing an output associating the type of functionality identified by said set of characteristics with said particular node.

Regarding claim 2, Sanmugam in view of Clarke as applied to claim 1 above discloses that the trace command also indicates the type of the signaling message to be traced, and the copy of the signaling message is sent only if the signaling message is of the type to be traced (Sanmugam, Col. 25, lines 9 – 22 and Col. 26, lines 25 – 39).

Regarding claim 3, Sanmugam in view of Clarke as applied to claim 1 above discloses that tracing starts from the start message of a dialogue related to the subscriber to be traced (Sanmugam, Col. 25, lines 51 – 57).

Regarding claim 4, Sanmugam in view of Clarke as applied to claim 3 above discloses that tracing of the subscriber's signaling message stops in response to the fact that the dialogue, which started tracing ends (Sanmugam, Col. 26, line 57 through Col. 27, line 11).

Regarding claim 5, Sanmugam in view of Clarke as applied to claim 1 above discloses receiving a stop command of tracing in the entity, the command indicating the subscriber whose signaling message tracing is to be stopped and stopping tracing of the signaling messages related to said subscriber (Sanmugam, Col. 25, lines 63 – 67).

Regarding claim 6, Sanmugam in view of Clarke as applied to claim 1 above discloses that the signaling messages of the MAP protocol are traced (Clarke, Col. 5, line 25 through Col. 6, line 15 and Col. 11, lines 23 – 29).

Regarding claim 7, the claim is interpreted and rejected for the same reason as set forth in claim 1.

Regarding claim 8, Sanmugam in view of Clarke discloses that the trace command also indicates the type of the signaling message to be traced, and the network element is arranged to copy the signaling message related to the subscriber to be traced if the signaling message is of the type to be traced (monitoring probes are installed between network elements to keep track of functionality of network elements and the monitoring probes, when a message is received from central station, maintains a record for holding functionality related

information determined for the node concerned to later report back to the central station, Clarke, Col. 9, lines 9 – 50 and Col. 10, lines 47 – 63).

Regarding claim 9, Sanmugam in view of Clarke discloses signaling messages to be traced are messages of the MAP protocol Clarke, Col. 5, line 25 through Col. 6, line 15 and Col. 11, lines 23 – 29), and the network element is arranged to start sending copies of the signaling messages related to the subscriber (monitoring probes send feedback to the central station, Clarke, Col. 9, lines 9 – 25) in response to the dialogue of the MAP protocol which starts after the trace command and is related to the subscriber to be traced (Sanmugam, Col. 24, line 55 through Col. 26, line 39

Regarding claim 10, Sanmugam in view of Clarke discloses a network element of a mobile communication system which receives and transmits signaling messages to manage subscriber mobility, the network element comprising reception means for receiving a trace command, which indicates the traces and identifies at least one subscriber whose signaling messages are to be traced, separation means for separating the signaling messages of the subscriber to be traced from other signaling messages (Sanmugam, Col. 26, lines 1 – 25), and means for sending the tracer copies of the signaling messages related to the subscriber to be traced (monitoring probes are installed between network elements to keep track of functionality of network elements and the monitoring probes, when a message is received from central station, maintains a record for holding functionality related information determined for the node

concerned to later report back to the central station, Clarke, Col. 9, lines 9 – 50 and Col. 10, lines 47 – 63).

Regarding claim 11, Sanmugam in view of Clarke as applied to claim 10 above discloses that the trace command also indicates the type of the dialogue to be traced and the separation means are arranged to separate the signaling messages that belong to the dialogue of the type to be traced from the signaling messages of the subscriber to be traced (Sanmugam, Col. 26, lines 1 – 25).

Regarding claim 12, Sanmugam in view of Clarke as applied to claim 10 discloses comparing an MAP entity (Clarke, Col. 5, line 25 through Col. 6, line 15 and Col. 11, lines 23 – 29), which is responsive to the reception means and comprises separation means and means for sending the copies (Clarke, Col. 9, lines 9 – 50 and Col. 10, lines 47 – 63).

### ***Response to Arguments***

3. Applicant's arguments filed 5/16/2005 have been fully considered but they are not persuasive.

The applicant presented the arguments that the references provided by the examiner fails to disclose the claimed invention. The examiner disagrees with the arguments presented by the applicant and the reasoning is as followed.

The applicant argued that Sanmugam in view of Clarke fails to teach, "receiving a trace command in said functional entity, the command indicating the tracer and identifying at least one subscriber whose signaling messages are to

be traced", " the command indicating the tracer and identifying at least one subscriber whose signaling messages are to be traced" and "sending to the tracer a copy of signaling message in response to the reception or transmission of a signaling message related to the subscriber to be traced".

Sanmugam in view of Clarke discloses receiving a trace command in said functional entity, the command indicating the tracer and identifying at least one subscriber whose signaling messages are to be traced (Sanmugam, Col. 24, line 55 through Col. 26, line 39) and sending to the tracer a copy of signaling message in response to the reception or transmission of a signaling message related to the subscriber to be traced (the examiner interprets sending a copy to the tracer as being an address or field and Clarke clearly discloses that the probe maintains a record for holding functionality-related information determined for the node concerned, where "function" field holds the identity of particular functionality uniquely identified from the examination of one message, Clarke, Col. 9, lines 9 – 50). Therefore, the office action mailed on 1/14/2005 holds.

### ***Conclusion***

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not




Art Unit: 2687

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Un C. Cho whose telephone number is (571) 272-7919. The examiner can normally be reached on M ~ F 8:00AM to 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on (571) 272-7922. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
SONNY TRINH  
PRIMARY EXAMINER

Un C Cho  
Examiner  
Art Unit 2687

8/10/05 